SEQUENCE LISTING

<110> SUNAHARA, Eiji
ISHII, Takafumi
YAMAMOTO, Koji
SATO, Shuji

<120> Novel protein and its use

<130> 3132US0P

<150> PCT/JP2003/016655
<151> 2003-12-25

<150> JP2002-378052
<151> 2002-12-26

<150> JP2003-65497
<151> 2003-03-11

<160> 25

<210> 1
<211> 837
<212> PRT
<213> Human

<400> 1

```
Met Leu Arg Thr Ala Met Gly Leu Arg Ser Trp Leu Ala Ala Pro Trp
              5                   10                  15
Gly Ala Leu Pro Pro Arg Pro Pro Leu Leu Leu Leu Leu Leu Leu Leu
             20                  25                  30
Leu Leu Leu Gln Pro Pro Pro Thr Trp Ala Leu Ser Pro Arg Ile
          35                  40                  45
Ser Leu Pro Leu Gly Ser Glu Glu Arg Pro Phe Leu Arg Phe Glu Ala
       50                  55                  60
Glu His Ile Ser Asn Tyr Thr Ala Leu Leu Leu Ser Arg Asp Gly Arg
    65                  70                  75                  80
Thr Leu Tyr Val Gly Ala Arg Glu Ala Leu Phe Ala Leu Ser Ser Asn
                85                  90                  95
Leu Ser Phe Leu Pro Gly Gly Glu Tyr Gln Glu Leu Leu Trp Gly Ala
             100                 105                 110
Asp Ala Glu Lys Lys Gln Gln Cys Ser Phe Lys Gly Lys Asp Pro Gln
          115                 120                 125
Arg Asp Cys Gln Asn Tyr Ile Lys Ile Leu Leu Pro Leu Ser Gly Ser
       130                 135                 140
His Leu Phe Thr Cys Gly Thr Ala Ala Phe Ser Pro Met Cys Thr Tyr
145                 150                 155                 160
Ile Asn Met Glu Asn Phe Thr Leu Ala Arg Asp Glu Lys Gly Asn Val
                165                 170                 175
Leu Leu Glu Asp Gly Lys Gly Arg Cys Pro Phe Asp Pro Asn Phe Lys
             180                 185                 190
Ser Thr Ala Leu Val Val Asp Gly Glu Leu Tyr Thr Gly Thr Val Ser
          195                 200                 205
Ser Phe Gln Gly Asn Asp Pro Ala Ile Ser Arg Ser Gln Ser Leu Arg
       210                 215                 220
```

1

```
Pro Thr Lys Thr Glu Ser Ser Leu Asn Trp Leu Gln Asp Pro Ala Phe
225               230           235              240
Val Ala Ser Ala Tyr Ile Pro Glu Ser Leu Gly Ser Leu Gln Gly Asp
            245               250              255
Asp Asp Lys Ile Tyr Phe Phe Phe Ser Glu Thr Gly Gln Glu Phe Glu
            260               265              270
Phe Phe Glu Asn Thr Ile Val Ser Arg Ile Ala Arg Ile Cys Lys Gly
        275               280              285
Asp Glu Gly Gly Glu Arg Val Leu Gln Gln Arg Trp Thr Ser Phe Leu
        290               295              300
Lys Ala Gln Leu Leu Cys Ser Arg Pro Asp Asp Gly Phe Pro Phe Asn
305               310               315              320
Val Leu Gln Asp Val Phe Thr Leu Ser Pro Ser Pro Gln Asp Trp Arg
            325               330              335
Asp Thr Leu Phe Tyr Gly Val Phe Thr Ser Gln Trp His Arg Gly Thr
            340               345              350
Thr Glu Gly Ser Ala Val Cys Val Phe Thr Met Lys Asp Val Gln Arg
        355               360              365
Val Phe Ser Gly Leu Tyr Lys Glu Val Asn Arg Glu Thr Gln Gln Met
        370               375              380
Val His Arg Asp Pro Pro Val Pro Thr Pro Arg Pro Gly Ala Cys Ile
385               390               395              400
Thr Asn Ser Ala Arg Glu Arg Lys Ile Asn Ser Ser Leu Gln Leu Pro
            405               410              415
Asp Arg Val Leu Asn Phe Leu Lys Asp His Phe Leu Met Asp Gly Gln
            420               425              430
Val Arg Ser Arg Met Leu Leu Leu Gln Pro Gln Ala Arg Tyr Gln Arg
        435               440              445
Val Ala Val His Arg Val Pro Gly Leu His His Thr Tyr Asp Val Leu
450               455               460
Phe Leu Gly Thr Gly Asp Gly Arg Leu His Lys Ala Val Ser Val Gly
465               470               475              480
Pro Arg Val His Ile Ile Glu Glu Leu Gln Ile Phe Ser Ser Gly Gln
            485               490              495
Pro Val Gln Asn Leu Leu Leu Asp Thr His Arg Gly Leu Leu Tyr Ala
            500               505              510
Ala Ser His Ser Gly Val Val Gln Val Pro Met Ala Asn Cys Ser Leu
            515               520              525
Tyr Arg Ser Cys Gly Asp Cys Leu Leu Ala Arg Asp Pro Tyr Cys Ala
    530               535               540
Trp Ser Gly Ser Ser Cys Lys His Val Ser Leu Tyr Gln Pro Gln Leu
545               550               555              560
Ala Thr Arg Pro Trp Ile Gln Asp Ile Glu Gly Ala Ser Ala Lys Asp
            565               570              575
Leu Cys Ser Ala Ser Ser Val Val Ser Pro Ser Phe Val Pro Thr Gly
            580               585              590
Glu Lys Pro Cys Glu Gln Val Gln Phe Gln Pro Asn Thr Val Asn Thr
        595               600              605
Leu Ala Cys Pro Leu Leu Ser Asn Leu Ala Thr Arg Leu Trp Leu Arg
        610               615              620
Asn Gly Ala Pro Val Asn Ala Ser Ala Ser Cys His Val Leu Pro Thr
625               630               635              640
Gly Asp Leu Leu Leu Val Gly Thr Gln Gln Leu Gly Glu Phe Gln Cys
            645               650              655
Trp Ser Leu Glu Glu Gly Phe Gln Gln Leu Val Ala Ser Tyr Cys Pro
            660               665              670
Glu Val Val Glu Asp Gly Val Ala Asp Gln Thr Asp Glu Gly Gly Ser
```

2

```
              675                          680                          685
Val ·Pro Val Ile Ile Ser Thr Ser Arg Val Ser Ala Pro Ala Gly Gly
              690                          695                     700
Lys Ala Ser Trp Gly Ala Asp Arg Ser Tyr Trp Lys Glu Phe Leu Val
705                          710                     715                          720
Met Cys Thr Leu Phe Val Leu Ala Val Leu Leu Pro Val Leu Phe Leu
                         725                     730                          735
Leu Tyr Arg His Arg Asn Ser Met Lys Val Phe Leu Lys Gln Gly Glu
                    740                     745                     750
Cys Ala Ser Val His Pro Lys Thr Cys Pro Val Val Leu Pro Pro Glu
                    755                     760                     765
Thr Arg Pro Leu Asn Gly Leu Gly Pro Pro Ser Thr Pro Leu Asp His
              770                     775                     780
Arg Gly Tyr Gln Ser Leu Ser Asp Ser Pro Pro Gly Ser Arg Val Phe
785                     790                     795                          800
Thr Glu Ser Glu Lys Arg Pro Leu Ser Ile Gln Asp Ser Phe Val Glu
                    805                     810                     815
Val Ser Pro Val Cys Pro Arg Pro Arg Val Arg Leu Gly Ser Glu Ile
              820                     825                     830
Arg Asp Ser Val Val
              835


<210> 2
<211> 2511
<212> DNA
<213> Human


<400> 2

atgctgcgca ccgcgatggg cctgaggagc tggctcgccg ccccatgggg cgcgctgccg      60
cctcggccac cgctgctgct gctcctgctg ctgctgctcc tgctgcagcc gccgcctccg     120
acctgggcgc tcagcccccg gatcagcctg cctctgggct ctgaagagcg gccattcctc     180
agattcgaag ctgaacacat ctccaactac acagcccttc tgctgagcag ggatggcagg     240
accctgtacg tgggtgctcg agaggccctc tttgcactca gtagcaacct cagcttcctg     300
ccaggcgggg agtaccagga gctgctttgg ggtgcagacg cagagaagaa cagcagtgc      360
agcttcaagg gcaaggaccc cacagcgcgac tgtcaaaact acatcaagat cctcctgccg     420
ctcagcggca gtcacctgtt cacctgtggc acagcagcct cagccccat gtgtacctac      480
atcaacatgg agaacttcac cctggcaagg acgagaagg ggaatgtcct cctggaagat      540
ggcaagggcc gttgtccctt cgacccgaat ttcaagtcca ctgccctggt ggttgatggc      600
gagctctaca ctggaacagt cagcagcttc aagggaatg acccggccat ctcgcggagc      660
caaagccttc gccccaccaa gaccgagagc tccctcaact ggctgcaaga cccagctttt     720
gtggcctcag cctacattcc tgagagcctg ggcagcttgc aaggcgatga tgacaagatc      780
tactttttct tcagcgagac tggccaggaa tttgagttct ttgagaacac cattgtgtcc    · 840
cgcattgccc gcatctgcaa gggcgatgag ggtggagagc gggtgctaca gcagcgctgg     900
acctccttcc tcaaggccca gctgctgtgc tcacggcccg acgatggctt ccccttcaac      960
gtgctgcagg atgtcttcac gctgagcccc agcccccagg actggcgtga caccctttc    1020
tatggggtct tcacttccca gtggcacagg ggaactacag aaggctctgc cgtctgtgtc    1080
ttcacaatga aggatgtgca gagagtcttc agcggcctct acaaggaggt gaaccgtgag    1140
acacagcaga tggtacaccg tgacccaccc gtgcccacac ccggcctgg agcgtgcatc    1200
accaacagtg cccgggaaag gaagatcaac tcatccctgc agctcccaga ccgcgtgctg    1260
aactttctca aggaccactt cctgatggac gggcaggtcc gaagccgcat gctgctgctg    1320
cagccccagg ctcgctacca gcgcgtggct gtacaccgcg tccctggcct gcaccacacc    1380
tacgatgtcc tcttcctggg cactggtgac ggccggctcc acaaggcagt gagcgtgggc    1440
cccgggtgc acatcattga ggagctgcag atcttctcat cgggacagcc cgtgcagaat    1500
ctgctcctgg acacccacag ggggctgctg tatgcggcct cacactcggg cgtagtccag    1560
gtgcccatgg ccaactgcag cctgtaccgg agctgtgggg actgcctcct cgcccgggac    1620
ccctactgtg cttggagcgg ctccagctgc aagcacgtca gcctctacca gcctcagctg    1680
```

3

```
gccaccaggc cgtggatcca ggacatcgag ggagccagcg ccaaggacct ttgcagcgcg   1740
tcttcggttg tgtccccgtc ttttgtacca acaggggaga agccatgtga gcaagtccag   1800
ttccagccca acacagtgaa cactttggcc tgcccgctcc tctccaacct ggcgacccga   1860
ctctggctac gcaacggggc ccccgtcaat gcctcggcct cctgccacgt gctacccact   1920
ggggacctgc tgctggtggg cacccaacag ctggggggagt tccagtgctg gtcactagag   1980
gagggcttcc agcagctggt agccagctac tgcccagagg tggtggagga cggggtggca   2040
gaccaaacag atgagggtgg cagtgtaccc gtcattatca gcacatcgcg tgtgagtgca   2100
ccagctggtg gcaaggccag ctggggtgca gacaggtcct actggaagga gttcctggtg   2160
atgtgcacgc tctttgtgct ggccgtgctg ctcccagttt tattcttgct ctaccggcac   2220
cggaacagca tgaaagtctt cctgaagcag ggggaatgtg ccagcgtgca ccccaagacc   2280
tgccctgtgg tgctgccccc tgagacccgc ccactcaacg gcctagggcc ccctagcacc   2340
ccactcgatc accgagggta ccagtccctg tcagacagcc ccccgggggtc ccgagtcttc   2400
actgagtcag agaagaggcc actcagcatc caagacagct tcgtggaggt atccccagtg   2460
tgcccccggc cccgggtccg ccttggctcg agatccgtg actctgtggt g             2511

<210> 3
<211> 3766
<212> DNA
<213> Human

<400> 3

gctctgccca agccgaggct gcggggccgg cgccggcggg aggactgcgg tgccccgcgg     60
aggggctgag tttgccaggg cccacttgac cctgtttccc acctcccgcc ccccaggtcc    120
ggaggcgggg gcccccgggg cgactcgggg gcggaccgcg gggcggagct gccgcccgtg    180
agtccggccg agccacctga gcccgagccg cgggacaccg tcgctcctgc tctccgaatg    240
ctgcgcaccg cgatgggcct gaggagctgg ctcgccgccc catggggcgc gctgccgcct    300
cggccaccgc tgctgctgct cctgctgctg ctgctcctgc tgcagccgcc gcctccgacc    360
tgggcgctca gcccccggat cagcctgcct ctgggctctg aagagcggcc attcctcaga    420
ttcgaagctg aacacatctc caactacaca gcccttctgc tgagcaggga tggcaggacc    480
ctgtacgtgg gtgctcgaga ggccctcttt gcactcagta gcaacctcag cttcctgcca    540
ggcgggggagt accaggagct gctttggggt gcagacgcag agaagaaaca gcagtgcagc    600
ttcaagggca aggacccaca gcgcgactgt caaaactaca tcaagatcct cctgccgctc    660
agcggcagtc acctgttcac ctgtggcaca gcagccttca gccccatgtg tacctacatc    720
aacatggaga acttcacccct ggcaagggac gagaagggga atgtcctcct ggaagatggc    780
aagggccgtt gtcccttcga cccgaatttc aagtccactg ccctggtggt tgatggcgag    840
ctctacactg gaacagtcag cagcttccaa gggaatgacc cggccatctc gcggagccaa    900
agccttcgcc ccaccaagac cgagagctcc ctcaactggc tgcaagaccc agcttttgtg    960
gcctcagcct acattcctga gcctgggc agcttgcaag gcgatgatga caagatctac   1020
ttttttcttca gcgagactgg ccaggaattt gagttctttg agaacaccat tgtgtcccgc   1080
attgcccgca tctgcaaggg cgatgagggt ggagagcggg tgctacagca gcgctggacc   1140
tccttcctca aggcccagct gctgtgctca cggcccgacg atggcttccc cttcaacgtg   1200
ctgcaggatg tcttcacgct gagccccagc ccccaggact ggcgtgacac ccttttctat   1260
ggggtcttca cttcccagtg gcacagggga actacagaag gctctgccgt ctgtgtcttc   1320
acaatgaagg atgtgcagag agtcttcagc ggcctctaca aggaggtgaa ccgtgagaca   1380
cagcagatgg tacaccgtga cccacccgtg cccacacccc ggcctggagc gtgcatcacc   1440
aacagtgccc gggaaaggaa gatcaactca tccctgcagc tcccagaccg cgtgctgaac   1500
tttctcaagg accacttcct gatggacggg caggtccgaa gccgcatgct gctgctgcag   1560
ccccaggctc gctaccagcg cgtggctgta caccgcgtcc ctggcctgca ccacacctac   1620
gatgtcctct tcctgggcac tggtgacggc cggctccaca aggcagtgag cgtgggcccc   1680
cgggtgcaca tcattgagga gctgcagatc ttctcatcgg gacagcccgt gcagaatctg   1740
ctcctggaca cccacagggg gctgctgtat gcggcctcac actcgggcgt agtccaggtg   1800
cccatggcca actgcagcct gtaccggagc tgtgggggact gcctcctcgc ccgggacccc   1860
tactgtgctt ggagcggctc cagctgcaag cacgtcagcc tctaccagcc tcagctggcc   1920
accaggccgt ggatccagga catcgaggga gccagcgcca aggacctttg cagcgcgtct   1980
tcggttgtgt ccccgtcttt tgtaccaaca ggggagaagc atgtgagca agtccagttc   2040
cagcccaaca cagtgaacac tttggcctgc ccgctcctct ccaacctggc gacccgactc   2100
```

                                  4

```
tggctacgca acggggcccc cgtcaatgcc tcggcctcct gccacgtgct acccactggg   2160
gacctgctgc tggtggggcac ccaacagctg ggggagttcc agtgctggtc actagaggag   2220
ggcttccagc agctggtagc cagctactgc ccagaggtgg tggaggacgg ggtggcagac   2280
caaacagatg agggtggcag tgtacccgtc attatcagca catcgcgtgt gagtgcacca   2340
gctggtggca aggccagctg gggtgcagac aggtcctact ggaaggagtt cctggtgatg   2400
tgcacgctct ttgtgctggc cgtgctgctc ccagttttat tcttgctcta ccggcaccgg   2460
aacagcatga aagtcttcct gaagcagggg gaatgtgcca gcgtgcaccc caagacctgc   2520
cctgtggtgc tgccccctga gacccgccca ctcaacggcc tagggccccc tagcacccca   2580
ctcgatcacc gagggtacca gtccctgtca gacagccccc cggggtcccg agtcttcact   2640
gagtcagaga agaggccact cagcatccaa gacagcttcg tggaggtatc cccagtgtgc   2700
ccccggcccc gggtccgcct ggctcggag atccgtgact ctgtggtgtg agagctgact   2760
tccagaggac gctgccctgg cttcaggggc tgtgaatgct cggagagggt caactggacc   2820
tcccctccgc tctgctcttc gtggaacacg accgtggtgc ccggcccttg ggagccttgg   2880
ggccagctgg cctgctgctc tccagtcaag tagcgaagct cctaccaccc agacacccaa   2940
acagccgtgg ccccagaggt cctggccaaa tatggggggcc tgcctaggtt ggtggaacag   3000
tgctccttat gtaaactgag cccttgtttt aaaaaacaat tccaaatgtg aaactagaat   3060
gagagggaag agatagcatg gcatgcagca cacacggctg ctccagttca tggcctccca   3120
ggggtgctgg ggatgcatcc aaagtggttg tctgagacag agttggaaac cctcaccaac   3180
tggcctcttc accttccaca ttatcccgct gccaccggct gccctgtctc actgcagatt   3240
caggaccagc ttgggctgcg tgcgttctgc cttgccagtc agccgaggat gtagttgttg   3300
ctgccgtcgt cccaccacct cagggaccag agggctaggt tggcactgcg gccctcacca   3360
ggtcctgggc tcggacccaa ctcctggacc tttccagcct gtatcaggct gtggccacac   3420
gagaggacag cgcgagctca ggagagattt cgtgacaatg tacgcctttc cctcagaatt   3480
cagggaagag actgtcgcct gccttcctcc gttgttgcgt gagaacccgt gtgcccccttc   3540
ccaccatatc caccctcgct ccatctttga actcaaacac gaggaactaa ctgcaccctg   3600
gtcctctccc cagtccccag ttcaccctcc atccctcacc ttcctccact ctaagggata   3660
tcaacactgc ccagcacagg ggccctgaat ttatgtggtt tttatacatt ttttaataag   3720
atgcacttta tgtcattttt taataaagtc tgaagaatta ctgttt              3766
```

<210> 4
<211> 837
<212> PRT
<213> Human

<400> 4

```
Met Leu Arg Thr Ala Met Gly Leu Arg Ser Trp Leu Ala Ala Pro Trp
                5                   10                  15
Gly Ala Leu Pro Pro Arg Pro Pro Leu Leu Leu Leu Leu Leu Leu Leu
            20                  25                  30
Leu Leu Leu Gln Pro Pro Pro Pro Thr Trp Ala Leu Ser Pro Arg Ile
        35                  40                  45
Ser Leu Pro Leu Gly Ser Glu Glu Arg Pro Phe Leu Arg Phe Glu Ala
    50                  55                  60
Glu His Ile Ser Asn Tyr Thr Ala Leu Leu Leu Ser Arg Asp Gly Arg
65                  70                  75                  80
Thr Leu Tyr Val Gly Ala Arg Glu Ala Leu Phe Ala Leu Ser Ser Asn
                85                  90                  95
Leu Ser Phe Leu Pro Gly Gly Glu Tyr Gln Glu Leu Leu Trp Gly Ala
            100                 105                 110
Asp Ala Glu Lys Lys Gln Gln Cys Ser Phe Lys Gly Lys Asp Pro Gln
        115                 120                 125
Arg Asp Cys Gln Asn Tyr Ile Lys Ile Leu Leu Pro Leu Ser Gly Ser
    130                 135                 140
His Leu Phe Thr Cys Gly Thr Ala Ala Phe Ser Pro Met Cys Thr Tyr
145                 150                 155                 160
Ile Asn Met Glu Asn Phe Thr Leu Ala Arg Asp Glu Lys Gly Asn Val
```

5

```
                    165                    170                    175
Leu Leu Glu Asp Gly Lys Gly Arg Cys Pro Phe Asp Pro Asn Phe Lys
             180                    185                    190
Ser Thr Ala Leu Val Val Asp Gly Glu Leu Tyr Thr Gly Thr Val Ile
         195                    200                    205
Ser Phe Gln Gly Asn Asp Pro Ala Ile Ser Arg Ser Gln Ser Leu Arg
     210                    215                    220
Pro Thr Lys Thr Glu Ser Ser Leu Asn Trp Leu Gln Asp Pro Ala Phe
225                    230                    235                    240
Val Ala Ser Ala Tyr Ile Pro Glu Ser Leu Gly Ser Leu Gln Gly Asp
                 245                    250                    255
Asp Asp Lys Ile Tyr Phe Phe Phe Ser Glu Thr Gly Gln Glu Phe Glu
             260                    265                    270
Phe Phe Glu Asn Thr Ile Val Ser Arg Ile Ala Arg Ile Cys Lys Gly
         275                    280                    285
Asp Glu Gly Gly Glu Arg Val Leu Gln Gln Arg Trp Thr Ser Phe Leu
     290                    295                    300
Lys Ala Gln Leu Leu Cys Ser Arg Pro Asp Asp Gly Phe Pro Phe Asn
305                    310                    315                    320
Val Leu Gln Asp Val Phe Thr Leu Ser Pro Ser Pro Gln Asp Trp Arg
                 325                    330                    335
Asp Thr Leu Phe Tyr Gly Val Phe Thr Ser Gln Trp His Arg Gly Thr
             340                    345                    350
Thr Glu Gly Ser Ala Val Cys Val Phe Thr Met Lys Asp Val Gln Arg
         355                    360                    365
Val Phe Ser Gly Leu Tyr Lys Glu Val Asn Arg Glu Thr Gln Gln Met
     370                    375                    380
Val His Arg Asp Pro Pro Val Pro Thr Pro Arg Pro Gly Ala Cys Ile
385                    390                    395                    400
Thr Asn Ser Ala Arg Glu Arg Lys Ile Asn Ser Ser Leu Gln Leu Pro
                 405                    410                    415
Asp Arg Val Leu Asn Phe Leu Lys Asp His Phe Leu Met Asp Gly Gln
             420                    425                    430
Val Arg Ser Arg Met Leu Leu Leu Gln Pro Gln Ala Arg Tyr Gln Arg
         435                    440                    445
Val Ala Val His Arg Val Pro Gly Leu His His Thr Tyr Asp Val Leu
     450                    455                    460
Phe Leu Gly Thr Gly Asp Gly Arg Leu His Lys Ala Val Ser Val Gly
465                    470                    475                    480
Pro Arg Val His Ile Ile Glu Glu Leu Gln Ile Phe Ser Ser Gly Gln
                 485                    490                    495
Pro Val Gln Asn Leu Leu Leu Asp Thr His Arg Gly Leu Leu Tyr Ala
             500                    505                    510
Ala Ser His Ser Gly Val Val Gln Val Pro Met Ala Asn Cys Ser Leu
         515                    520                    525
Tyr Arg Ser Cys Gly Asp Cys Leu Leu Ala Arg Asp Pro Tyr Cys Ala
     530                    535                    540
Trp Ser Gly Ser Ser Cys Lys His Val Ser Leu Tyr Gln Pro Gln Leu
545                    550                    555                    560
Ala Thr Arg Pro Trp Ile Gln Asp Ile Glu Gly Ala Ser Ala Lys Asp
                 565                    570                    575
Leu Cys Ser Ala Ser Ser Val Val Ser Pro Ser Phe Val Pro Thr Gly
             580                    585                    590
Glu Lys Pro Cys Glu Gln Val Gln Phe Gln Pro Asn Thr Val Asn Thr
         595                    600                    605
Leu Ala Cys Pro Leu Leu Ser Asn Leu Ala Thr Arg Leu Trp Leu Arg
     610                    615                    620
```

6

```
Asn Gly Ala Pro Val Asn Ala Ser Ala Ser Cys His Val Leu Pro Thr
625                 630             635                 640
Gly Asp Leu Leu Leu Val Gly Thr Gln Gln Leu Gly Glu Phe Gln Cys
                645             650                 655
Trp Ser Leu Glu Glu Gly Phe Gln Gln Leu Val Ala Ser Tyr Cys Pro
            660             665                 670
Glu Val Val Glu Asp Gly Val Ala Asp Gln Thr Asp Glu Gly Gly Ser
        675             680                 685
Val Pro Val Ile Ile Ser Thr Ser Arg Val Ser Ala Pro Ala Gly Gly
        690             695                 700
Lys Ala Ser Trp Gly Ala Asp Arg Ser Tyr Trp Lys Glu Phe Leu Val
705             710                 715                 720
Met Cys Thr Leu Phe Val Leu Ala Val Leu Leu Pro Val Leu Phe Leu
                725             730                 735
Leu Tyr Arg His Arg Asn Ser Met Lys Val Phe Leu Lys Gln Gly Glu
            740             745                 750
Cys Ala Ser Val His Pro Lys Thr Cys Pro Val Val Leu Pro Pro Glu
            755             760                 765
Thr Arg Pro Leu Asn Gly Leu Gly Pro Pro Ser Thr Pro Leu Asp His
        770             775                 780
Arg Gly Tyr Gln Ser Leu Ser Asp Ser Pro Pro Gly Ser Arg Val Phe
785             790                 795                 800
Thr Glu Ser Glu Lys Arg Pro Leu Ser Ile Gln Asp Ser Phe Val Glu
                805             810                 815
Val Ser Pro Val Cys Pro Arg Pro Arg Val Arg Leu Gly Ser Glu Ile
                820             825                 830
Arg Asp Ser Val Val
            835


<210> 5
<211> 2511
<212> DNA
<213> Human


<400> 5

atgctgcgca ccgcgatggg cctgaggagc tggctcgccg ccccatgggg cgcgctgccg    60
cctcggccac cgctgctgct gctcctgcta ctgctgctcc tgctgcagcc accgcctccg   120
acctgggcgc tcagcccccg gatcagcctg cctctgggct ctgaagagcg gccattcctc   180
agattcgaag ctgaacacat ctccaactac acagcccttc tgctgagcag ggatggcagg   240
accctgtacg tgggtgctcg agaggccctc tttgcactca gtagcaacct cagcttcctg   300
ccaggcgggg agtaccagga gctgctttgg ggtgcagacg cagagaagaa acagcagtgc   360
agcttcaagg gcaaggaccc cagcgcgac tgtcaaaact acatcaagat cctcctgccg   420
ctcagcggca gtcacctgtt cacctgtggc acagcagcct cagccccat gtgtacctac   480
atcaacatgg agaacttcac cctggcaagg acgagaagg ggaatgtcct cctggaagat   540
ggcaagggcc gttgtccctt cgacccgaat ttcaagtcca ctgccctggt ggttgatggc   600
gagctctaca ctggaacagt catcagcttc caagggaatg acccggccat ctcgcggagc   660
caaagccttc gccccaccaa gaccgagagc tccctcaact ggctgcaaga cccagctttt   720
gtggcctcag cctacattcc tgagagcctg ggcagcttgc aaggcgatga tgacaagatc   780
tacttttct tcagcgagac tggccaggaa tttgagttct ttgagaacac cattgtgtcc   840
cgcattgccc gcatctgcaa gggcgatgag ggtggagagc gggtgctaca gcagcgctgg   900
acctccttcc tcaaggccca gctgctgtgc tcacggcccg acgatggctt cccttcaac   960
gtgctgcagg atgtcttcac gctgagcccc agcccccagg actggcgtga caccctttc  1020
tatggggtct tcacttccca gtggcacagg ggaactacag aaggctctgc cgtctgtgtc  1080
ttcacaatga aggatgtgca gagagtcttc agcggcctct acaaggaggt gaaccgtgag  1140
acacagcaga tggtacaccg tgacccaccc gtgcccacac ccggcctgg agcgtgcatc  1200
accaacagtg cccgggaaag gaagatcaac tcatccctgc agctcccaga ccgcgtgctg  1260
```

7

```
aactttctca aggaccactt cctgatggac gggcaggtcc gaagccgcat gctgctgctg    1320
cagccccagg ctcgctacca gcgcgtggct gtacaccgcg tccctggcct gcaccacacc    1380
tacgatgtcc tcttcctggg cactggtgac ggccggctcc acaaggcagt gagcgtgggc    1440
cccgggtgc acatcattga ggagctgcag atcttctcat cgggacagcc cgtgcagaat     1500
ctgctcctgg acacccacag ggggctgctg tatgcggcct cacactcggg cgtagtccag    1560
gtgcccatgg ccaactgcag cctgtaccgg agctgtgggg actgcctcct cgcccgggac    1620
ccctactgtg cttggagcgg ctccagctgc aagcacgtca gcctctacca gcctcagctg    1680
gccaccaggc cgtggatcca ggacatcgag ggagccagcg ccaaggacct ttgcagcgcg    1740
tcttcggttg tgtccccgtc ttttgtacca acaggggaga agccatgtga gcaagtccag    1800
ttccagccca acacagtgaa cactttggcc tgcccgctcc tctccaacct ggcgacccga    1860
ctctggctac gcaacggggc ccccgtcaat gcctcggcct cctgccacgt gctacccact    1920
ggggacctgc tgctggtggg cacccaacag ctggggggagt tccagtgctg gtcactagag    1980
gagggcttcc agcagctggt agccagctac tgcccagagg tggtggagga cggggtggca    2040
gaccaaacag atgagggtgg cagtgtaccc gtcattatca gcacatcgcg tgtgagtgca    2100
ccagctggtg gcaaggccag ctggggtgca gacaggtcct actggaagga gttcctggtg    2160
atgtgcacgc tctttgtgct ggccgtgctg ctcccagttt tattcttgct ctaccggcac    2220
cggaacagca tgaaagtctt cctgaagcag ggggaatgtg ccagcgtgca ccccaagacc    2280
tgccctgtgg tgctgccccc tgagacccgc ccactcaacg cctagggcc ccctagcacc      2340
ccactcgatc accgagggta ccagtccctg tcagacagcc ccccggggtc ccgagtcttc    2400
actgagtcag agaagaggcc actcagcatc caagacagct tcgtggaggt atccccagtg     2460
tgccccggc cccgggtccg ccttggctcg gagatccgtg actctgtggt g              2511
```

<210> 6
<211> 3766
<212> DNA
<213> Human

<400> 6

```
gctctgccca agccgaggct gcggggccgg cgccggcggg aggactgcgg tgccccgcgg     60
aggggctgag tttgccaggg cccacttgac cctgtttccc acctcccgcc ccccaggtcc    120
ggaggcgggg gcccccgggg cgactcgggg gcggaccgcg gggcggagct gccgcccgtg    180
agtccggccg agccacctga gcccgagccg cgggacaccg tcgctcctgc tctccgaatg    240
ctgcgcaccg cgatgggcct gaggagctgg ctcgccgccc catggggcgc gctgccgcct    300
cggccaccgc tgctgctgct cctgctactg ctgctcctgc tgcagccacc gcctccgacc    360
tgggcgctca gcccccggat cagcctgcct ctgggctctg aagagcggcc attcctcaga    420
ttcgaagctg aacacatctc caactacaca gcccttctgc tgagcaggga tggcaggacc    480
ctgtacgtgg gtgctcgaga ggccctcttt gcactcagta gcaacctcag cttcctgcca    540
ggcggggagt accaggagct gctttggggt gcagacgcag agaagaaaca gcagtgcagc    600
ttcaagggca aggacccaca gcgcgactgt caaaactaca tcaagatcct cctgccgctc    660
agcggcagtc acctgttcac ctgtggcaca gcagccttca gccccatgtg tacctacatc    720
aacatggaga acttcacccct ggcaagggac gagaaggga atgtcctcct ggaagatggc    780
aagggccgtt gtccccttcga cccgaatttc aagtccactg ccctggtggt tgatggcgag    840
ctctacactg aacagtcat cagcttccaa gggaatgacc cggccatctc gcggagccaa     900
agccttcgcc ccaccaagac cgagagctcc ctcaactggc tgcaagaccc agcttttgtg    960
gcctcagcct acattcctga gcctgggc agcttgcaag gcgatgatga caagatctac     1020
tttttcttca gcgagactgg ccaggaattt gagttctttg agaacaccat tgtgtcccgc    1080
attgcccgca tctgcaaggg cgatgagggt ggagagcggg tgctacagca gcgctggacc    1140
tccttcctca aggcccagct gctgtgctca cggcccgacg atggcttccc cttcaacgtg    1200
ctgcaggatg tcttcacgct gagccccagc ccccaggact ggcgtgacac cctttttctat    1260
ggggtcttca cttcccagtg gcacagggga actacagaag gctctgccgt ctgtgtcttc    1320
acaatgaagg atgtgcagag agtcttcagc ggcctctaca aggaggtgaa ccgtgagaca    1380
cagcagatgg tacaccgtga cccacccgtg cccacacccc ggcctggagc gtgcatcacc    1440
aacagtgccc gggaaaggaa gatcaactca tccctgcagc tcccagaccg cgtgctgaac    1500
tttctcaagg accacttcct gatggacggg caggtccgaa ccgcatgct gctgctgcag     1560
ccccaggctc gctaccagcg cgtggctgta caccgcgtcc tggcctgca ccacacctac     1620
gatgtcctct tcctgggcac tggtgacggc cggctccaca aggcagtgag cgtgggcccc    1680
```
```

8
```

```
cgggtgcaca tcattgagga gctgcagatc ttctcatcgg gacagcccgt gcagaatctg   1740
ctcctggaca cccacagggg gctgctgtat gcggcctcac actcgggcgt agtccaggtg   1800
cccatggcca actgcagcct gtaccggagc tgtggggact gcctcctcgc ccgggacccc   1860
tactgtgctt ggagcggctc cagctgcaag cacgtcagcc tctaccagcc tcagctggcc   1920
accaggccgt ggatccagga catcgaggga gccagcgcca aggacctttg cagcgcgtct   1980
tcggttgtgt ccccgtcttt tgtaccaaca ggggagaagc catgtgagca agtccagttc   2040
cagcccaaca cagtgaacac tttggcctgc ccgctcctct ccaacctggc gacccgactc   2100
tggctacgca acggggcccc cgtcaatgcc tcggcctcct gccacgtgct acccactggg   2160
gacctgctgc tggtgggcac ccaacagctg ggggagttcc agtgctggtc actagaggag   2220
ggcttccagc agctggtagc cagctactgc ccagaggtgg tggaggacgg ggtggcagac   2280
caaacagatg agggtggcag tgtacccgtc attatcagca tcgcgtgt gagtgcacca    2340
gctggtggca aggccagctg gggtgcagac aggtcctact ggaaggagtt cctggtgatg   2400
tgcacgctct ttgtgctggc cgtgctgctc ccagttttat tcttgctcta ccggcaccgg   2460
aacagcatga aagtcttcct gaagcagggg gaatgtgcca gcgtgcaccc caagacctgc   2520
cctgtggtgc tgccccctga cccgcccca ctcaacggcc tagggcccc tagcacccca    2580
ctcgatcacc gagggtacca gtccctgtca gacagccccc cggggtcccg agtcttcact   2640
gagtcagaga gaggccact cagcatccaa gacagcttcg tggaggtatc cccagtgtgc   2700
cccgcccc gggtccgcct tggctcggag atccgtgact ctgtggtgtg agagctgact     2760
tccagaggac gctgccctgg cttcaggggc tgtgaatgct cggagagggt caactggacc   2820
tcccctccgc tctgctcttc gtggaacacg accgtggtgc ccggcccttg ggagccttgg   2880
ggccagctgg cctgctgctc tccagtcaag tagcgaagct cctaccaccc agacacccaa   2940
acagccgtgg ccccagaggt cctggccaaa tatggggggcc tgcctaggtt ggtggaacag   3000
tgctccttat gtaaactgag ccctttgttt aaaaaacaat tccaaatgtg aaactagaat   3060
gagagggaag agatagcatg gcatgcagca cacacggctg ctccagttca tggcctccca   3120
ggggtgctgg ggatgcatcc aaagtggttg tctgagacag agttggaaac cctcaccaac   3180
tggcctcttc accttccaca ttatcccgct gccaccggct gccctgtctc actgcagatt   3240
caggaccagc ttgggctgcg tgcgttctgc cttgccagtc agccgaggat gtagttgttg   3300
ctgccgtcgt cccaccacct cagggaccag agggctaggt tggcactgcg ccctcacca    3360
ggtcctgggc tcggacccaa ctcctggacc tttccagcct gtatcaggct gtggccacac   3420
gagaggacag cgcgagctca ggagagattt cgtgacaatg tacgcctttc cctcagaatt   3480
cagggaagag actgtcgcct gccttcctcc gttgttgcgt gagaacccgt gtgccccttc   3540
ccaccatatc caccctcgct ccatctttga actcaaacac gaggaactaa ctgcaccctg   3600
gtcctctccc cagtccccag ttcaccctcc atccctcacc ttcctccact ctaagggata   3660
tcaacactgc ccagcacagg ggccctgaat ttatgtggtt tttatacatt ttttaataag   3720
atgcactta tgtcattttt aataaagtc tgaagaatta ctgttt                     3766
```

<210> 7
<211> 837
<212> PRT
<213> Human

<400> 7

```
Met Leu Arg Thr Ala Met Gly Leu Arg Ser Trp Leu Ala Ala Pro Trp
                5                   10                  15
Gly Ala Leu Pro Pro Arg Pro Pro Leu Leu Leu Leu Leu Leu Leu Leu
                20                  25                  30
Leu Leu Leu Gln Pro Pro Pro Thr Trp Ala Leu Ser Pro Arg Ile
            35                  40                  45
Ser Leu Pro Leu Gly Ser Glu Glu Arg Pro Phe Leu Arg Phe Glu Ala
        50                  55                  60
Glu His Ile Ser Asn Tyr Thr Ala Leu Leu Leu Ser Arg Asp Gly Arg
65                  70                  75                  80
Thr Leu Tyr Val Gly Ala Arg Glu Ala Leu Phe Ala Leu Ser Ser Asn
                85                  90                  95
Leu Ser Phe Leu Pro Gly Gly Glu Tyr Gln Glu Leu Leu Trp Gly Ala
            100                 105                 110
```

9

```
Asp Ala Glu Lys Lys Gln Gln Cys Ser Phe Lys Gly Lys Asp Pro Gln
        115             120             125
Arg Asp Cys Gln Asn Tyr Ile Lys Ile Leu Leu Pro Leu Ser Gly Ser
    130             135             140
His Leu Phe Thr Cys Gly Thr Ala Ala Phe Ser Pro Met Cys Thr Tyr
145             150             155             160
Ile Asn Ile Glu Asn Phe Thr Leu Ala Arg Asp Glu Lys Gly Asn Val
            165             170             175
Leu Leu Glu Asp Gly Lys Gly Arg Cys Pro Phe Asp Pro Asn Phe Lys
        180             185             190
Ser Thr Ala Leu Val Val Asp Gly Glu Leu Tyr Thr Gly Thr Val Ser
    195             200             205
Ser Phe Gln Gly Asn Asp Pro Ala Ile Ser Arg Ser Gln Ser Leu Arg
    210             215             220
Pro Thr Lys Thr Glu Ser Ser Leu Asn Trp Leu Gln Asp Pro Ala Phe
225             230             235             240
Val Ala Ser Ala Tyr Ile Pro Glu Ser Leu Gly Ser Leu Gln Gly Asp
            245             250             255
Asp Asp Lys Ile Tyr Phe Phe Phe Ser Glu Thr Gly Gln Glu Phe Glu
        260             265             270
Phe Phe Glu Asn Thr Ile Val Ser Arg Ile Ala Arg Ile Cys Lys Gly
        275             280             285
Asp Glu Gly Gly Glu Arg Val Leu Gln Gln Arg Trp Thr Ser Phe Leu
        290             295             300
Lys Ala Gln Leu Leu Cys Ser Arg Pro Asp Asp Gly Phe Pro Phe Asn
305             310             315             320
Val Leu Gln Asp Val Phe Thr Leu Ser Pro Ser Pro Gln Asp Trp Arg
            325             330             335
Asp Thr Leu Phe Tyr Gly Val Phe Thr Ser Gln Trp His Arg Gly Thr
        340             345             350
Thr Glu Gly Ser Ala Val Cys Val Phe Thr Met Lys Asp Val Gln Arg
        355             360             365
Val Phe Ser Gly Leu Tyr Lys Glu Val Asn Arg Glu Thr Gln Gln Met
    370             375             380
Val His Arg Asp Pro Pro Val Pro Thr Pro Arg Pro Gly Ala Cys Ile
385             390             395             400
Thr Asn Ser Ala Arg Glu Arg Lys Ile Asn Ser Ser Leu Gln Leu Pro
            405             410             415
Asp Arg Val Leu Asn Phe Leu Lys Asp His Phe Leu Met Asp Gly Gln
        420             425             430
Val Arg Ser Arg Met Leu Leu Leu Gln Pro Gln Ala Arg Tyr Gln Arg
    435             440             445
Val Ala Val His Arg Val Pro Gly Leu His His Thr Tyr Asp Val Leu
    450             455             460
Phe Leu Gly Thr Gly Asp Gly Arg Leu His Lys Ala Val Ser Val Gly
465             470             475             480
Pro Arg Val His Ile Ile Glu Glu Leu Gln Ile Phe Ser Ser Gly Gln
            485             490             495
Pro Val Gln Asn Leu Leu Leu Asp Thr His Arg Gly Leu Leu Tyr Ala
        500             505             510
Ala Ser His Ser Gly Val Val Gln Val Pro Met Ala Asn Cys Ser Leu
    515             520             525
Tyr Arg Ser Cys Gly Asp Cys Leu Leu Ala Arg Asp Pro Tyr Cys Ala
    530             535             540
Trp Ser Gly Ser Ser Cys Lys His Val Ser Leu Tyr Gln Pro Gln Leu
545             550             555             560
Ala Thr Arg Pro Trp Ile Gln Asp Ile Glu Gly Ala Ser Ala Lys Asp
```

```
                   565                      570                      575
 Leu Cys Ser Ala Ser Ser Val Val Ser Pro Ser Phe Val Pro Thr Gly
                   580                      585                      590
 Glu Lys Pro Cys Glu Gln Val Gln Phe Gln Pro Asn Thr Val Asn Thr
                   595                      600                      605
 Leu Ala Cys Pro Leu Leu Ser Asn Leu Ala Thr Arg Leu Trp Leu Arg
                   610                      615                      620
 Asn Gly Ala Pro Val Asn Ala Ser Ala Ser Cys His Val Leu Pro Thr
             625                      630                      635                      640
 Gly Asp Leu Leu Leu Val Gly Thr Gln Gln Leu Gly Glu Phe Gln Cys
                   645                      650                      655
 Trp Ser Leu Glu Glu Gly Phe Gln Gln Leu Val Ala Ser Tyr Cys Pro
                   660                      665                      670
 Glu Val Val Glu Asp Gly Val Ala Asp Gln Thr Asp Glu Gly Gly Ser
                   675                      680                      685
 Val Pro Val Ile Ile Ser Thr Ser Arg Val Ser Ala Pro Ala Gly Gly
             690                      695                      700
 Lys Ala Ser Trp Gly Ala Asp Arg Ser Tyr Trp Lys Glu Phe Leu Val
       705                      710                      715                      720
 Met Cys Thr Leu Phe Val Leu Ala Val Leu Leu Pro Val Leu Phe Leu
                   725                      730                      735
 Leu Tyr Arg His Arg Asn Ser Met Lys Val Phe Leu Lys Gln Gly Glu
                   740                      745                      750
 Cys Ala Ser Val His Pro Lys Thr Cys Pro Val Val Leu Pro Pro Glu
                   755                      760                      765
 Thr Arg Pro Leu Asn Gly Leu Gly Pro Pro Ser Thr Pro Leu Asp His
             770                      775                      780
 Arg Gly Tyr Gln Ser Leu Ser Asp Ser Pro Pro Gly Ser Arg Val Phe
       785                      790                      795                      800
 Thr Glu Ser Glu Lys Arg Pro Leu Ser Ile Gln Asp Ser Phe Val Glu
                   805                      810                      815
 Val Ser Pro Val Cys Pro Arg Pro Arg Val Arg Leu Gly Ser Glu Ile
             820                      825                      830
 Arg Asp Ser Val Val
             835


<210> 8
<211> 2511
<212> DNA
<213> Human


<400> 8

atgctgcgca ccgcgatggg cctgaggagc tggctcgccg ccccatgggg cgcgctgccg      60
cctcggccac cgctgctgct gctcctgctg ctgctgctcc tgctgcagcc gccgcctccg     120
acctgggcgc tcagcccccg gatcagccta cctctgggct ctgaagagcg gccattcctc     180
agattcgaag ctgaacacat ctccaactac acagcccttc tgctgagcag ggatggcagg     240
accctgtacg tgggtgctcg agaggccctc tttgcactca gtagcaacct cagcttcctg     300
ccaggcgggg agtaccagga gctgctttgg ggtgcagacg cagagaagaa acagcagtgc     360
agcttcaagg gcaaggaccc acagcgcgac tgtcaaaact acatcaagat cctcctgccg     420
ctcagcggca gtcacctgtt cacctgtggc acagcagcct tcagccccat gtgtacctac     480
atcaacatag agaacttcac cctggcaagg gacgagaagg ggaatgttct cctggaagat     540
ggcaagggcc gttgtccctt cgacccgaat ttcaagtcca ctgccctggt ggttgatggc     600
gagctctaca ctggaacagt cagcagcttc caagggaatg acccggccat ctcgcggagc     660
caaagccttc gccccaccaa gaccgagagc tccctcaact ggctgcaaga cccagctttt     720
gtggcctcag cctacattcc tgagagcctg ggcagcttgc aaggcgatga tgacaagatc     780
tactttttct tcagcgagac tggccaggaa tttgagttct ttgagaacac cattgtgtcc     840
```

11

```
cgcattgccc gcatctgcaa gggcgatgag ggtggagagc gggtgctaca gcagcgctgg      900
acctccttcc tcaaggccca gctgctgtgc tcacggcccg acgatggctt cccctcaac      960
gtgctgcagg atgtcttcac gctgagcccc agcccccagg actggcgtga cacccttttc     1020
tatggggtct tcacttccca gtggcacagg ggaactacag aaggctctgc cgtctgtgtc     1080
ttcacaatga aggatgtgca gagagtcttc agcggcctct acaaggaggt gaaccgtgag     1140
acacagcaga tggtacaccg tgacccaccc gtgcccacac cccggcctgg agcgtgcatc     1200
accaacagtg cccgggaaag gaagatcaac tcatccctgc agctcccaga ccgcgtgctg     1260
aacttcctca aggaccactt cctgatggac gggcaggtcc gaagccgcat gctgctgctg     1320
cagccccagg ctcgctacca gcgcgtggct gtacaccgcg tccctggcct gcaccacacc     1380
tacgatgtcc tcttcctggg cactggtgac ggccggctcc acaaggcagt gagcgtgggc     1440
ccccgggtgc acatcattga ggagctgcag atcttctcat cgggacagcc cgtgcagaat     1500
ctgctcctgg acacccacag ggggctgctg tatgcggcct cacactcggg cgtagtccag     1560
gtgcccatgg ccaactgcag cctgtacagg agctgtgggg actgcctcct cgcccgggac     1620
ccctactgtg cttggagcgg ctccagctgc aagcacgtca gcctctacca gcctcagctg     1680
gccaccaggc cgtggatcca ggacatcgag ggagccagcg ccaaggacct ttgcagcgcg     1740
tcttcggttg tgtccccgtc ttttgtacca acaggggaga agccatgtga gcaagtccag     1800
ttccagccca acacagtgaa cactttggcc tgcccgctcc tctccaacct ggcgacccga     1860
ctctggctac gcaacggggc ccccgtcaat gcctcggcct cctgccacgt gctacccact     1920
ggggacctgc tgctggtggg cacccaacag ctgggggagt tccagtgctg gtcactagag     1980
gagggcttcc agcagctggt agccagctac tgcccagagg tggtggagga cggggtggca     2040
gaccaaacag atgagggtgg cagtgtaccc gtcattatca gcacatcgcg tgtgagtgca     2100
ccagctggtg gcaaggccag ctgggggtgca gacaggtcct actggaagga gttcctggtg     2160
atgtgcacgc tctttgtgct ggccgtgctg ctcccagttt tattcttgct ctaccggcac     2220
cggaacagca tgaaagtctt cctgaagcag ggggaatgtg ccagcgtgca ccccaagacc     2280
tgccctgtgg tgctgccccc tgagacccgc ccactcaacg gcctagggcc ccctagcacc     2340
ccgctcgatc accgagggta ccagtccctg tcagacagcc ccccggggtc ccgagtcttc     2400
actgagtcag agaagaggcc actcagcatc aagacagct tcgtggaggt atccccagtg      2460
tgcccccggc cccgggtccg ccttggctcg agatccgtg actctgtggt g               2511
```

<210> 9
<211> 3766
<212> DNA
<213> Human

<400> 9

```
gctctgccca agccgaggct gcggggccgg cgccggcggg aggactgcgg tgccccgcgg       60
aggggctgag tttgccaggg cccacttgac cctgtttccc acctcccgcc ccccaggtcc      120
ggaggcgggg gcccccgggg cgactcgggg gcggaccgcg gggcggagct gccgcccgtg      180
agtccggccg agccacctga gcccgagccg cgggacaccg tcgctcctgc tctccgaatg      240
ctgcgcaccg cgatgggcct gaggagctgg ctcgccgccc catggggcgc gctgccgcct      300
cggccaccgc tgctgctgct cctgctgctg ctgctcctgc tgcagccgcc gcctccgacc      360
tgggcgctca gcccccggat cagcctacct ctgggctctg aagagcggcc attcctcaga      420
ttcgaagctg aacacatctc caactacaca gcccttctgc tgagcaggga tggcaggacc      480
ctgtacgtgg gtgctcgaga ggccctcttt gcactcagta gcaacctcag cttcctgcca      540
ggcggggagt accaggagct gctttggggt gcagacgcag agaagaaaca gcagtgcagc      600
ttcaagggca aggacccaca gcgcgactgt caaaactaca tcaagatcct cctgccgctc      660
agcggcagtc acctgttcac ctgtggcaca gcagccttca gccccatgtg tacctacatc      720
aacatagaga acttcacccct ggcaagggac gagaagggga atgttctcct ggaagatggc      780
aagggccgtt gtcccttcga cccgaatttc aagtccactg ccctggtggt tgatggcgag      840
ctctacactg gaacagtcag cagcttccaa gggaatgacc cggccatctc gcggagccaa      900
agccttcgcc ccaccaagac cgagagctcc ctcaactggc tgcaagaccc agcttttgtg      960
gcctcagcct acattcctga gagcctgggc agcttgcaag cgatgatga caagatctac     1020
ttttttcttca gcgagactgg ccaggaattt gagttctttg agaacaccat tgtgtcccgc     1080
attgcccgca tctgcaaggg cgatgagggt ggagagcggg tgctacagca gcgctggacc     1140
tccttcctca aggcccagct gctgtgctca cggcccgacg atggcttccc cttcaacgtg     1200
ctgcaggatg tcttcacgct gagccccagc ccccaggact ggcgtgacac ccttttctat     1260
```
```

```
ggggtcttca cttcccagtg gcacagggga actacagaag gctctgccgt ctgtgtcttc   1320
acaatgaagg atgtgcagag agtcttcagc ggcctctaca aggaggtgaa ccgtgagaca   1380
cagcagatgg tacaccgtga cccacccgtg cccacacccc ggcctggagc gtgcatcacc   1440
aacagtgccc gggaaaggaa gatcaactca tccctgcagc tcccagaccg cgtgctgaac   1500
ttcctcaagg accacttcct gatggacggg caggtccgaa gccgcatgct gctgctgcag   1560
ccccaggctc gctaccagcg cgtggctgta caccgcgtcc ctggcctgca ccacacctac   1620
gatgtcctct cctgggcac tggtgacggc cggctccaca aggcagtgag cgtgggcccc   1680
cgggtgcaca tcattgagga gctgcagatc ttctcatcgg gacagcccgt gcagaatctg   1740
ctcctggaca cccacagggg gctgctgtat gcggcctcac actcgggcgt agtccaggtg   1800
cccatggcca actgcagcct gtacaggagc tgtgggggact gcctcctcgc ccgggacccc   1860
tactgtgctt ggagcggctc cagctgcaag cacgtcagcc tctaccagcc tcagctggcc   1920
accaggccgt ggatccagga catcgaggga gccagcgcca aggacctttg cagcgcgtct   1980
tcggttgtgt ccccgtcttt tgtaccaaca ggggagaagc catgtgagca agtccagttc   2040
cagcccaaca cagtgaacac tttggcctgc ccgctcctct ccaacctggc gacccgactc   2100
tggctacgca acgggccccc cgtcaatgcc tcggcctcct gccacgtgct acccactggg   2160
gacctgctgc tggtgggcac ccaacagctg ggggagttcc agtgctggtc actagaggag   2220
ggcttccagc agctggtagc cagctactgc ccagaggtgg tggaggacgg ggtggcagac   2280
caaacagatg agggtggcag tgtacccgtc attatcagca catcgcgtgt gagtgcacca   2340
gctggtggca aggccagctg gggtgcagac aggtcctact ggaaggagtt cctggtgatg   2400
tgcacgctct ttgtgctggc cgtgctgctc ccagttttat tcttgctcta ccggcaccgg   2460
aacagcatga aagtcttcct gaagcagggg gaatgtgcca gcgtgcaccc caagacctgc   2520
cctgtggtgc tgccccctga cccgcccca ctcaacggcc tagggccccc tagcaccccg   2580
ctcgatcacc gagggtacca gtccctgtca gacagcccc cggggtcccg agtcttcact   2640
gagtcagaga gagaggccact cagcatccaa gacagcttcg tggaggtatc cccagtgtgc   2700
cccggcccc gggtccgcct tggctcggag atccgtgact ctgtggtgtg agagctgact   2760
tccagaggac gctgccctgg cttcaggggc tgtgaatgct cggagagggt caactggacc   2820
tcccctccgc tctgctcttc gtggaacacg accgtggtgc ccggcccttg ggagccttgg   2880
ggccagctgg cctgctgctc tccagtcaag tagcgaagct cctaccaccc agacacccaa   2940
acagccgtgg ccccagaggt cctggccaaa tatggggggc tgcctaggtt ggtggaacag   3000
tgctccttat gtaaactgag cccttttgttt aaaaaacaat tccaaatgtg aaactagaat   3060
gagagggaag agatagcatg gcatgcagca cacacggctg ctccagttca tggcctccca   3120
ggggtgctgg ggatgcatcc aaagtggttg tctgagacag agttggaaac cctcaccaac   3180
tggcctcttc accttccaca ttatcccgct gccaccggct gccctgtctc actgcagatt   3240
caggaccagc ttgggctgcg tgcgttctgc cttgccagtc agccgaggat gtagttgttg   3300
ctgccgtcgt cccaccacct cagggaccag agggctaggt tggcactgcg gccctcacca   3360
ggtcctgggc tcggacccaa ctcctggacc tttccagcct gtatcaggct gtggccacac   3420
gagaggacag cgcgagctca ggagagattt cgtgacaatg tacgcctttc cctcagaatt   3480
cagggaagag actgtcgcct gccttcctcc gttgttgcgt gagaacccgt gtgccccttc   3540
ccaccatatc caccctcgct ccatctttga actcaaacac gaggaactaa ctgcaccctg   3600
gtcctctccc cagtccccag ttcaccctcc atccctcacc ttcctccact ctaagggata   3660
tcaacactgc ccagcacagg ggccctgaat ttatgtggtt tttatacatt ttttaataag   3720
atgcacttta tgtcattttt taataaagtc tgaagaatta ctgttt          3766
```

<210> 10
<211> 837
<212> PRT
<213> Human

<400> 10

```
Met Leu Arg Thr Ala Met Gly Leu Arg Ser Trp Leu Ala Ala Pro Trp
              5                  10                  15
Gly Ala Leu Pro Pro Arg Pro Pro Leu Leu Leu Leu Leu Leu Leu Leu
             20                  25                  30
Leu Leu Leu Gln Pro Pro Pro Thr Trp Ala Leu Ser Pro Arg Ile
        35                  40                  45
Ser Leu Pro Leu Gly Ser Glu Glu Arg Pro Phe Leu Arg Phe Glu Ala
```

13

```
             50                        55                        60
Glu His Ile Ser Asn Tyr Thr Ala Leu Leu Leu Ser Arg Asp Gly Arg
 65                       70                       75                       80
Thr Leu Tyr Val Gly Ala Arg Glu Ala Leu Phe Ala Leu Ser Ser Asn
                 85                       90                       95
Leu Ser Phe Leu Pro Gly Gly Glu Tyr Gln Glu Leu Leu Trp Gly Ala
                100                      105                      110
Asp Ala Glu Lys Lys Gln Gln Cys Ser Phe Lys Gly Lys Asp Pro Gln
                115                      120                      125
Arg Asp Cys Gln Asn Tyr Ile Lys Ile Leu Leu Pro Leu Ser Gly Ser
        130                      135                      140
His Leu Phe Thr Cys Gly Thr Ala Ala Phe Ser Pro Met Cys Thr Tyr
145                      150                      155                      160
Ile Asn Met Glu Asn Phe Thr Leu Ala Arg Asp Glu Lys Gly Asn Val
                165                      170                      175
Leu Leu Glu Asp Gly Lys Gly Arg Cys Pro Phe Asp Pro Asn Phe Lys
                180                      185                      190
Ser Thr Ala Leu Val Val Asp Gly Glu Leu Tyr Thr Gly Thr Val Ser
                195                      200                      205
Ser Phe Gln Gly Asn Asp Pro Ala Ile Ser Arg Ser Gln Ser Leu Arg
        210                      215                      220
Pro Thr Lys Thr Glu Ser Ser Leu Asn Trp Leu Gln Asp Pro Ala Phe
225                      230                      235                      240
Val Ala Ser Ala Tyr Ile Pro Glu Ser Leu Gly Ser Leu Gln Gly Asp
                245                      250                      255
Asp Asp Lys Ile Tyr Phe Phe Phe Ser Glu Thr Gly Gln Glu Phe Glu
                260                      265                      270
Phe Phe Glu Asn Thr Ile Val Ser Arg Ile Ala Arg Ile Cys Lys Gly
                275                      280                      285
Asp Glu Gly Gly Glu Arg Val Leu Gln Gln Arg Trp Thr Ser Phe Leu
        290                      295                      300
Lys Ala Gln Leu Leu Cys Ser Arg Pro Asp Asp Gly Phe Pro Phe Asn
305                      310                      315                      320
Val Leu Gln Asp Val Phe Thr Leu Ser Pro Ser Pro Gln Asp Trp Arg
                325                      330                      335
Asp Thr Leu Phe Tyr Gly Val Phe Thr Ser Gln Trp His Arg Gly Thr
                340                      345                      350
Thr Glu Gly Ser Ala Val Cys Val Phe Thr Met Asn Asp Val Gln Arg
        355                      360                      365
Val Phe Ser Gly Leu Tyr Lys Glu Val Asn Arg Glu Thr Gln Gln Met
        370                      375                      380
Val His Arg Asp Pro Pro Val Pro Thr Pro Arg Pro Gly Ala Cys Ile
385                      390                      395                      400
Thr Asn Ser Ala Arg Glu Arg Lys Ile Asn Ser Ser Leu Gln Leu Pro
                405                      410                      415
Asp Arg Val Leu Asn Phe Leu Lys Asp His Phe Leu Met Asp Gly Gln
        420                      425                      430
Val Arg Ser Arg Met Leu Leu Leu Gln Pro Gln Ala Arg Tyr Gln Arg
        435                      440                      445
Val Ala Val His Arg Val Pro Gly Leu His His Thr Tyr Asp Val Leu
        450                      455                      460
Phe Leu Gly Thr Gly Asp Gly Arg Leu His Lys Ala Val Ser Val Gly
465                      470                      475                      480
Pro Arg Val His Ile Ile Glu Glu Leu Gln Ile Phe Ser Ser Gly Gln
                485                      490                      495
Pro Val Gln Asn Leu Leu Leu Asp Thr His Arg Gly Leu Leu Tyr Ala
        500                      505                      510
```

14

Ala Ser His Ser Gly Val Val Gln Val Pro Met Ala Asn Cys Ser Leu
        515   520   525
Tyr Arg Ser Cys Gly Asp Cys Leu Leu Ala Arg Asp Pro Tyr Cys Ala
        530   535   540
Trp Ser Gly Ser Ser Cys Lys His Val Ser Leu Tyr Gln Pro Gln Leu
545   550   555   560
Ala Thr Arg Pro Trp Ile Gln Asp Ile Glu Gly Ala Ser Ala Lys Asp
                565   570   575
Leu Cys Ser Ala Ser Ser Val Val Ser Pro Ser Phe Val Pro Thr Gly
            580   585   590
Glu Lys Pro Cys Glu Gln Val Gln Phe Gln Pro Asn Thr Val Asn Thr
        595   600   605
Leu Ala Cys Pro Leu Leu Ser Asn Leu Ala Thr Arg Leu Trp Leu Arg
        610   615   620
Asn Gly Ala Pro Val Asn Ala Ser Ala Ser Cys His Val Leu Pro Thr
625   630   635   640
Gly Asp Leu Leu Leu Val Gly Thr Gln Gln Leu Gly Glu Phe Gln Cys
            645   650   655
Trp Ser Leu Glu Glu Gly Phe Gln Gln Leu Val Ala Ser Tyr Cys Pro
        660   665   670
Glu Val Val Glu Asp Gly Val Ala Asp Gln Thr Asp Glu Gly Gly Ser
        675   680   685
Val Pro Val Ile Ile Ser Thr Ser Arg Val Ser Ala Pro Ala Gly Gly
        690   695   700
Lys Ala Ser Trp Gly Ala Asp Arg Ser Tyr Trp Lys Glu Phe Leu Val
705   710   715   720
Met Cys Thr Leu Phe Val Leu Ala Val Leu Leu Pro Val Leu Phe Leu
                725   730   735
Leu Tyr Arg His Arg Asn Ser Met Lys Val Phe Leu Lys Gln Gly Glu
            740   745   750
Cys Ala Ser Val His Pro Lys Thr Cys Pro Val Val Leu Pro Pro Glu
            755   760   765
Thr Arg Pro Leu Asn Gly Leu Gly Pro Pro Ser Thr Pro Leu Asp His
        770   775   780
Arg Gly Tyr Gln Ser Leu Ser Asp Ser Pro Pro Gly Ser Arg Val Phe
785   790   795   800
Thr Glu Ser Glu Lys Arg Pro Leu Ser Ile Gln Asp Ser Phe Val Glu
                805   810   815
Val Ser Pro Val Cys Pro Arg Pro Arg Val Arg Leu Gly Ser Glu Ile
            820   825   830
Arg Asp Ser Val Val
        835

<210> 11
<211> 2511
<212> DNA
<213> Human

<400> 11

atgctgcgca ccgcgatggg cctgaggagc tggctcgccg ccccatgggg cgcgctgccg   60
cctcggccac cgctgctgct gctcctgctg ctgctgctcc tgctgcagcc gccgcctccg   120
acctgggcgc tcagcccccg gatcagcctg cctctgggct ctgaagagcg gccattcctc   180
agattcgaag ctgaacacat ctccaactac acagcccttc tgctgagcag ggatggcagg   240
accctgtacg tgggtgctcg agaggccctc tttgcactca gtagcaacct cagcttcctg   300
ccaggcgggg agtaccagga gctgctttgg ggtgcagacg cagagaagaa acagcagtgc   360
agcttcaagg gcaaggaccc acagcgcgac tgtcaaaact acatcaagat cctcctgccg   420

15

```
ctcagcggca gtcacctgtt cacctgtggc acagcagcct tcagccccat gtgtacctac    480
atcaacatgg agaacttcac cctggcaagg gacgagaagg ggaatgtcct cctggaagat    540
ggcaagggcc gttgtccctt cgacccgaat ttcaagtcca ctgccctggt ggttgatggc    600
gagctctaca ctggaacagt cagcagcttc caagggaatg acccggccat ctcgcggagc    660
caaagccttc gccccaccaa gaccgagagc tccctcaact ggctgcaaga cccagctttt    720
gtggcctcag cctacattcc tgagagcctg ggcagcttgc aaggcgatga tgacaagatc    780
tacttttct tcagcgagac tggccaggaa tttgagttct ttgagaacac cattgtgtcc    840
cgcattgccc gcatctgcaa gggcgatgag ggtggagagc gggtgctaca gcagcgctgg    900
acctccttcc tcaaggccca gctgctgtgc tcacggcccg acgatggctt ccccttcaac    960
gtgctgcagg atgtcttcac gctgagcccc agcccccagg actggcgtga cacccttttc   1020
tatggggtct tcacttccca gtggcacagg ggaactacag aaggctctgc cgtctgtgtc   1080
ttcacaatga atgatgtgca gagagtcttc agcggcctct acaaggaggt gaaccgtgag   1140
acacagcaga tggtacaccg tgacccaccc gtgcccacac cccggcctgg agcgtgcatc   1200
accaacagtg cccgggaaag gaagatcaac tcatccctgc agctcccaga ccgcgtgctg   1260
aactttctca aggaccactt cctgatggac gggcaggtcc gaagccgcat gctgctgctg   1320
cagccccagg ctcgctacca gcgcgtggct gtacaccgcg tccctggcct gcaccacacc   1380
tacgatgtcc tcttcctggg cactggtgac ggccggctcc acaaggcagt gagcgtgggc   1440
ccccgggtgc acatcattga ggagctgcag atcttctcat cgggacagcc cgtgcagaat   1500
ctgctcctgg acacccacag ggggctgctg tatgcggcct cacactcggg cgtagtccag   1560
gtgcccatgg ccaactgcag cctgtaccgg agctgtgggg actgcctcct cgcccgggac   1620
ccctactgtg cttggagcgg ctccagctgc aagcacgtca gcctctacca gcctcagctg   1680
gccaccaggc cgtggatcca ggacatcgag ggagccagcg ccaaggacct ttgcagcgcg   1740
tcttcggttg tgtccccgtc ttttgtacca acaggggaga agccatgtga gcaagtccag   1800
ttccagccca acacagtgaa cactttggcc tgcccgctcc tctccaacct ggcgacccga   1860
ctctggctac gcaacggggc ccccgtcaat gcctcggcct cctgccacgt gctacccact   1920
ggggacctgc tgctggtggg cacccaacag ctggggggagt tccagtgctg gtcactagag   1980
gagggcttcc agcagctggt agccagctac tgcccagagg tggtggagga cggggtggca   2040
gaccaaacag atgagggtgg cagtgtaccc gtcattatca gcacatcgcg tgtgagtgca   2100
ccagctggtg gcaaggccag ctggggtgca gacaggtcct actggaagga gttcctggtg   2160
atgtgcacgc tctttgtgct ggccgtgctg ctcccagttt tattcttgct ctaccggcac   2220
cggaacagca tgaaagtctt cctgaagcag ggggaatgtg ccagcgtgca ccccaagacc   2280
tgccctgtgg tgctgccccc tgagacccgc ccactcaacg cctagggcc ccctagcacc   2340
ccactcgatc accgagggta ccagtccctg tcagacagcc ccccggggtc ccgagtcttc   2400
actgagtcag agaagaggcc actcagcatc caagacagct tcgtggaggt atccccagtg   2460
tgcccccggc cccgggtccg ccttggctcg gagatccgtg actctgtggt g            2511
```

<210> 12
<211> 3766
<212> DNA
<213> Human

<400> 12

```
gctctgccca agccgaggct gcggggccgg cgccggcggg aggactgcgg tgccccgcgg     60
aggggctgag tttgccaggg cccacttgac cctgtttccc acctcccgcc ccccaggtcc    120
ggaggcgggg gcccccgggg cgactcgggg gcggaccgcg ggcggagct gccgcccgtg    180
agtccggccg agccacctga gcccgagccg cgggacaccg tcgctcctgc tctccgaatg    240
ctgcgcaccg cgatgggcct gaggagctgg ctcgccgccc catggggcgc gctgccgcct    300
cggccaccgc tgctgctgct cctgctgctg ctgctcctgc tgcagccgcc gcctccgacc    360
tgggcgctca gcccccggat cagcctgcct ctgggctctg aagagcggcc attcctcaga    420
ttcgaagctg aacacatctc caactacaca gcccttctgc tgagcaggga tggcaggacc    480
ctgtacgtgg gtgctcgaga ggccctcttt gcactcagta gcaacctcag cttcctgcca    540
ggcggggagt accaggagct gctttggggt gcagacgcag agaagaaaca gcagtgcagc    600
ttcaagggca aggacccaca gcgcgactgt caaaactaca tcaagatcct cctgccgctc    660
agcggcagtc acctgttcac ctgtggcaca gcagccttca gccccatgtg tacctacatc    720
aacatggaga acttcaccct ggcaagggac gagaaggga atgtcctcct ggaagatggc    780
aagggccgtt gtcccttcga cccgaatttc aagtccactg ccctggtggt tgatggcgag    840
```

16

```
ctctacactg gaacagtcag cagcttccaa gggaatgacc cggccatctc gcggagccaa    900
agccttcgcc ccaccaagac cgagagctcc ctcaactggc tgcaagaccc agcttttgtg    960
gcctcagcct acattcctga gagcctgggc agcttgcaag gcgatgatga caagatctac   1020
ttttttcttca gcgagactgg ccaggaattt gagttctttg agaacaccat tgtgtcccgc   1080
attgcccgca tctgcaaggg cgatgagggt ggagagcggg tgctacagca gcgctggacc   1140
tccttcctca aggcccagct gctgtgctca cggcccgacg atggcttccc cttcaacgtg   1200
ctgcaggatg tcttcacgct gagccccagc ccccaggact ggcgtgacac ccttttctat   1260
ggggtcttca cttcccagtg gcacagggga actacagaag gctctgccgt ctgtgtcttc   1320
acaatgaatg atgtgcagag agtcttcagc ggcctctaca aggaggtgaa ccgtgagaca   1380
cagcagatgg tacaccgtga cccacccgtg cccacacccc ggcctggagc gtgcatcacc   1440
aacagtgccc gggaaaggaa gatcaactca tccctgcagc tcccagaccg cgtgctgaac   1500
tttctcaagg accacttcct gatggacggg caggtccgaa gccgcatgct gctgctgcag   1560
ccccaggctc gctaccagcg cgtggctgta caccgcgtcc ctggcctgca ccacacctac   1620
gatgtcctct tcctgggcac tggtgacggc cggctccaca aggcagtgag cgtgggcccc   1680
cgggtgcaca tcattgagga gctgcagatc ttctcatcgg gacagcccgt gcagaatctg   1740
ctcctggaca cccacagggg gctgctgtat gcggcctcac actcgggcgt agtccaggtg   1800
cccatggcca actgcagcct gtaccggagc tgtggggact gcctcctcgc ccgggacccc   1860
tactgtgctt ggagcggctc cagctgcaag cacgtcagcc tctaccagcc tcagctggcc   1920
accaggccgt ggatccagga catcgaggga gccagcgcca aggacctttg cagcgcgtct   1980
tcggttgtgt ccccgtcttt tgtaccaaca ggggagaagc catgtgagca agtccagttc   2040
cagcccaaca cagtgaacac tttggcctgc ccgctcctct ccaacctggc gacccgactc   2100
tggctacgca acggggcccc cgtcaatgcc tcggcctcct gccacgtgct acccactggg   2160
gacctgctgc tggtgggcac ccaacagctg ggggagttcc agtgctggtc actagaggag   2220
ggcttccagc agctggtagc cagctactgc ccagaggtgg tggaggacgg ggtggcagac   2280
caaacagatg agggtggcag tgtacccgtc attatcagca catcgcgtgt gagtgcacca   2340
gctggtggca aggccagctg gggtgcagac aggtcctact ggaaggagtt cctggtgatg   2400
tgcacgctct ttgtgctggc cgtgctgctc ccagttttat tcttgctcta ccggcaccgg   2460
aacagcatga aagtcttcct gaagcagggg gaatgtgcca gcgtgcaccc caagacctgc   2520
cctgtggtgc tgccccctga cacccgccca ctcaacggcc tagggccccc tagcaccccca   2580
ctcgatcacc gagggtacca gtccctgtca gacagccccc cggggtcccg agtcttcact   2640
gagtcagaga agaggccact cagcatccaa gacagcttcg tggaggtatc cccagtgtgc   2700
cccccggcccc gggtccgcct tggctcggag atccgtgact ctgtggtgtg agagctgact   2760
tccagaggac gctgccctgg cttcaggggc tgtgaatgct cggagagggt caactggacc   2820
tcccctccgc tctgctcttc gtggaacacg accgtggtgc ccggcccttg ggagccttgg   2880
ggccagctgg cctgctgctc tccagtcaag tagcgaagct cctaccaccc agacacccaa   2940
acagccgtgg ccccagaggt cctggccaaa tatgggggcc tgcctaggtt ggtggaacag   3000
tgctccttat gtaaactgag ccctttgttt aaaaaacaat tccaaatgtg aaactagaat   3060
gagagggaag agatagcatg gcatgcagca cacacggctg ctccagttca tggcctccca   3120
ggggtgctgg ggatgcatcc aaagtggttg tctgagacag agttggaaac cctcaccaac   3180
tggcctcttc accttccaca ttatcccgct gccaccggct gccctgtctc actgcagatt   3240
caggaccagc ttgggctgcg tgcgttctgc cttgccagtc agccgaggat gtagttgttg   3300
ctgccgtcgt cccaccacct cagggaccag agggctaggt tggcactgcg ccctcacca    3360
ggtcctgggc tcggacccaa ctcctggacc tttccagcct gtatcaggct gtggccacac   3420
gagaggacag cgcgagctca ggagagattt cgtgacaatg tacgcctttc cctcagaatt   3480
cagggaagag actgtcgcct gccttcctcc gttgttgcgt gagaacccgt gtgccccttc   3540
ccaccatatc caccctcgct ccatctttga actcaaacac gaggaactaa ctgcaccctg   3600
gtcctctccc cagtccccag ttcaccctcc atccctcacc ttcctccact ctaagggata   3660
tcaacactgc ccagcacagg ggccctgaat ttatgtggtt tttatacatt ttttaataag   3720
atgcacttta tgtcattttt taataaagtc tgaagaatta ctgttt              3766
```

<210> 13
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

17

<400> 13

cagtgccaac ctagccctct   20

<210> 14
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 14

tctcccgatc caaccgtgac   20

<210> 15
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 15

caacaactac atcctcggct   20

<210> 16
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 16

tcggctccta catcaacaac   20

<210> 17
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 17

cctcgcccgg gacccctact gtgc   24

<210> 18
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 18

cttggcgctg gctccctcga tgtcctg   27

<210> 19
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 19

aattgaattc atgctgcgca ccgcgatg   28

<210> 20
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 20

aagctctaga caccacagag tcacggatct   30

<210> 21
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 21

aagctctaga tcacaccaca gagtcacgga   30

<210> 22
<211> 12
<212> PRT
<213> Human

<400> 22

Asn Ser Ala Arg Glu Arg Lys Ile Asn Ser Ser Cys
                  5   10

<210> 23
<211> 15
<212> PRT

<213> Human

<400> 23

Ser Val Val Ser Pro Ser Phe Val Pro Thr Gly Glu Lys Pro Cys
                  5   10   15

<210> 24
<211> 15
<212> PRT
<213> Human

<400> 24

Pro Leu Asp His Arg Gly Tyr Gln Ser Leu Ser Asp Ser Pro Cys
                  5   10   15

<210> 25
<211> 14
<212> PRT
<213> Human

<400> 25

Ser Arg Val Phe Thr Glu Ser Glu Lys Arg Pro Leu Ser Cys
                  5   10